

AMENDMENTS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Original) A fiber optic transceiver with safety features, comprising:
a laser transmitter;
a photodiode receiver; and
a controller,
wherein the controller comprises:
a memory, including one or more memory arrays, configured to store digital equivalents of predetermined setpoints;
communication circuitry configured to receive an input signal associated with operation of said fiber optic transceiver;
comparison logic configured to compare said input signal to at least one of said predetermined setpoints and to generate an alarm flag if said input signal conflicts with said setpoint, wherein the alarm flag is stored in a predefined location in the memory;
an interface for allowing a host to read from and write to host-specified locations within the memory, including the predefined location storing the alarm flag; and
operation disable circuitry configured to disable operation of said fiber optic transceiver in response to a signal, wherein the signal is based on said alarm flag.
2. (Previously Presented) The fiber optic transceiver of claim 1, wherein the controller further comprises conversion circuitry for converting the input signal from analog to digital, wherein the digital input signal is a 16-bit number.
3. (Original) The fiber optic transceiver of claim 1, wherein the digital equivalents are 16-bit numbers.
4. (Original) The fiber optic transceiver of claim 1, wherein the operation disable circuitry is responsive to a software operation.
5. (Original) The fiber optic transceiver of claim 1, wherein the operation disable circuitry disables operation of the fiber optic transceiver in response to a signal sent to a disable pin in the fiber optic transceiver.

6. (Original) The fiber optic transceiver of claim 1, wherein said predetermined setpoints are dependent on a temperature of said fiber optic transceiver.
7. (Original) The fiber optic transceiver of claim 1, wherein the interface allows the host to read directly from and write directly to host-specified locations within the memory, including the predefined location storing the alarm flag.
8. (Original) A fiber optic transceiver with safety features, comprising:
 - a laser transmitter;
 - a photodiode receiver; and
 - a controller,wherein the controller comprises:
 - a memory, including one or more memory arrays, configured to store a first set of digital equivalents of a plurality of predetermined setpoints for a bias current associated with a transmitter within the fiber optic transceiver, a second set of digital equivalents of a plurality of predetermined setpoints for an output power associated with the transmitter within the fiber optic transceiver, and a third set of digital equivalents of a plurality of predetermined setpoints for a received optical power associated with a receiver within the fiber optic transceiver;
 - communication circuitry configured to receive input signals associated with operation of said fiber optic transceiver, wherein the input signals include the bias current, the output power and the received optical power; and
 - comparison logic configured to compare the bias current to each digital equivalent in the first set of digital equivalents, the output power to each digital equivalent in the second set of digital equivalents and the received optical power to each digital equivalent in the third set of digital equivalents, and to generate an alarm flag if said input signals conflict with at least one of the first set of digital equivalents, second set of digital equivalents and third set of digital equivalents, respectively.
9. (Original) The fiber optic transceiver of claim 8, further comprising:
 - operation disable circuitry configured to disable operation of said fiber optic transceiver in response to a signal, wherein the signal is based on said alarm flag.
10. (Original) The fiber optic transceiver of claim 8, further comprising:

fault control circuitry configured to control operation of said fiber optic transceiver based on said alarm flag.

11. (Original) The fiber optic transceiver of claim 8, further comprising conversion circuitry for converting between analog and digital.

12. (Original) The fiber optic transceiver of claim 11, wherein said conversion circuitry is configured to convert said input signal from analog to digital using a predetermined calibration factor.

13. (Original) The fiber optic transceiver of claim 11, wherein said conversion circuitry is configured to convert said at least one of said predetermined setpoints from digital to analog value.

14. (Original) The fiber optic transceiver of claim 11, wherein said conversion circuitry is a digital comparator or an analog comparator.

15. (Original) The fiber optic transceiver of claim 11, further comprising an internal transmitter disable connection for disabling at least the laser transmitter of said fiber optic transceiver based on said alarm flag.

16. (Previously Presented) A fiber optic transceiver with safety features, comprising:
a laser transmitter;
a photodiode receiver; and
a controller,
wherein the controller comprises:

a memory, including one or more memory arrays, configured to store a digital equivalent of a predetermined low setpoint and a digital equivalent of a predetermined high setpoint in a memory within a fiber optic transceiver;

communication circuitry configured to receive an input signal associated with operation of said fiber optic transceiver;

comparison logic configured to compare said input signal to the digital equivalent of the predetermined low setpoint and to the digital equivalent of the predetermined high setpoint, and to generate an alarm flag if said input signal conflicts with either the digital equivalent of the predetermined low setpoint or the digital equivalent of the predetermined high setpoint; and

an interface for allowing a host to read from host-specified locations within the memory, including a memory location corresponding to the alarm flag.

17. (Original) The fiber optic transceiver of claim 16, further comprising:
operation disable circuitry configured to disable operation of said fiber optic transceiver in response to a signal, wherein the signal is based on said alarm flag.
18. (Previously Presented) The fiber optic transceiver of claim 16, further comprising conversion circuitry for converting the input signal from analog to digital, wherein the digital input signal is a 16-bit number.
19. (Original) The fiber optic transceiver of claim 16, wherein the digital equivalents are 16-bit numbers.
20. (Previously Presented) The fiber optic transceiver of claim 17 , wherein the operation disable circuitry is responsive to a software operation.
21. (Previously Presented) The fiber optic transceiver of claim 17, wherein the operation disable circuitry disables operation of the fiber optic transceiver in response to a signal sent to a disable pin in the fiber optic transceiver.
22. (Original) The fiber optic transceiver of claim 16, wherein said predetermined setpoints are dependent on a temperature of said fiber optic transceiver.
23. (Original) A fiber optic transceiver with safety features, comprising:
a laser transmitter;
a photodiode receiver; and
a controller,
wherein the controller comprises:
a memory, including one or more memory arrays, configured to store digital equivalents of predetermined setpoints;
communication circuitry configured to receive an input signal associated with operation of said fiber optic transceiver;
comparison logic configured to compare said input signal to at least one of said predetermined setpoints and to generate an alarm flag if said input signal conflicts with said setpoint, wherein the alarm flag is stored in a predefined location in the memory;

an interface for allowing a host to read from a host-specified locations within the memory, including the predefined location storing the alarm flag; and

operation disable circuitry configured to disable operation of said fiber optic transceiver in response to a signal, wherein the signal is based on said alarm flag.

24. (Original) The fiber optic transceiver of claim 23, wherein the controller further comprises conversion circuitry for converting the input signal from analog to digital, wherein the digital input signal is a 16-bit number.

25. (Original) The fiber optic transceiver of claim 23, wherein the digital equivalents are 16-bit numbers.

26. (Original) The fiber optic transceiver of claim 23, wherein the operation disable circuitry is responsive to a software operation.

27. (Original) The fiber optic transceiver of claim 23, wherein the operation disable circuitry disables operation of the fiber optic transceiver in response to a signal sent to a disable pin in the fiber optic transceiver.

28. (Original) The fiber optic transceiver of claim 23, wherein said predetermined setpoints are dependent on a temperature of said fiber optic transceiver.

29. (Original) The fiber optic transceiver of claim 23, wherein the interface allows the host to read directly from and write directly to host-specified locations within the memory, including the predefined location storing the alarm flag.

30. (New) A method of monitoring operation of a fiber optic transceiver, comprising:
in a memory within a fiber optic transceiver, storing a first set of digital equivalents of a plurality of predetermined setpoints for a bias current associated with a transmitter within the fiber optic transceiver, a second set of digital equivalents of a plurality of predetermined setpoints for an output power associated with the transmitter within the fiber optic transceiver;

acquiring, at an integrated circuit within said fiber optic transceiver, input signals associated with operation of said fiber optic transceiver, wherein the input signals include the bias current and the output power;

comparing the bias current to each digital equivalent in the first set of digital equivalents, the output power to each digital equivalent in the second set of digital equivalents;

determining that said input signals conflict with at least one of the first set of digital equivalents and second set of digital equivalents; and

generating an alarm flag based on said conflict.

31. (New) The method of claim 30, wherein:

the first set includes a high bias current setpoint and a low bias current setpoint, the second set includes a high output power setpoint and a low output power setpoint;

the comparing includes comparing the bias current to the high bias current setpoint and the low bias current setpoint, comparing the out put power to the high output power setpoint and the low output power setpoint.

32. (New) Circuitry for monitoring operation of a fiber optic transceiver, comprising:

a memory, including one or more memory arrays, configured to store a first set of digital equivalents of a plurality of predetermined setpoints for a bias current associated with a transmitter within the fiber optic transceiver, a second set of digital equivalents of a plurality of predetermined setpoints for an output power associated with the transmitter within the fiber optic transceiver;

communication circuitry configured to receive input signals associated with operation of said fiber optic transceiver, wherein the input signals include the bias current and the output power; and


comparison logic configured to compare the bias current to each digital equivalent in the first set of digital equivalents, the output power to each digital equivalent in the second set of digital equivalents, and to generate an alarm flag if said input signals conflict with at least one of the first set of digital equivalents and second set of digital equivalents.

33. (New) The circuitry of claim 32, further comprising operation disable circuitry configured to disable operation of at least a portion of said fiber optic transceiver in response to a signal, wherein the signal is based on said alarm flag.

If there are any fees or credits due in connection with the filing of this Amendment, authorization is given to charge any necessary fees to our Deposit Account No. 50-0310 (order No. 060900-0208-US). A copy of this sheet is enclosed for such purpose.

Respectfully submitted,

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